

ABSTRACT OF THE DISCLOSURE

Disclosed is a novel δ -endotoxin, designated CryET29, that exhibits insecticidal activity against siphonapteran insects, including larvae of the cat flea (*Ctenocephalides felis*), as well as against coleopteran insects, including the southern corn rootworm (*Diabrotica undecimpunctata*), western corn rootworm (*D. virgifera*), Colorado potato beetle (*Leptinotarsa decemlineata*), Japanese beetle (*Popillia japonica*), and red flour beetle (*Tribolium castaneum*). Also disclosed are nucleic acid segments encoding CryET29, recombinant vectors, host cells, and transgenic plants comprising a *cryET29* DNA segment. Methods for making and using the disclosed protein and nucleic acid segments are disclosed as well as assays and diagnostic kits for detecting *cryET29* and CryET29 sequences *in vivo* and *in vitro*.